



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,473	04/27/2001	James A. Laugharn Jr.	BMA-005	8156

7590 06/18/2003
Testa Hurwitz & Thibeault
High Street Tower
125 High Street
Boston, MA 02110

EXAMINER

SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
----------	--------------

1723

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,473

Applicant(s)

LAUGHARN JR. ET AL.

Examiner

Tony G Soohoo

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,17,18,23,25-30,32,33,35,39,43 and 45-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,17,18,23,25-30,32,33,35,39,43 and 45-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Note: Originally presented claims 24 and 44 was originally presented as "cancelled" in the papers filed 4/27/2001.

Election/Restrictions

1. Applicant's election without traverse of the invention and species as pointed out in Paper No. 8, filed March 26, 2003 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Remaining claim 17 is dependent upon cancelled claim 16. Claim 16 was cancelled as per instructions in the amendment filed March 26, 2003.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1723

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-2, 6-7, 18, 27, 28-30, 33, 35, 39 and 47, are rejected under 35 U.S.C. 102(b) as being anticipated by Dudgeon et al 4307964.

The claims are so broad, that the apparatus and method is anticipated by number of various devices and corresponding method of operation such as the device to Dugeon et al (Dugeon). Dugeon discloses an apparatus and corresponding method whereby a sonic energy source driver (18) generates a wavetrain, a holder (tube 12) to hold a passing sample whereby the sample is movable relative to the emitted sonic energy; and a processor for controlling the sonic energy source (20) and location of the sample (via and induced mixing flow of the sample caused by the acoustic pressure on to the sample caused by driver) such that the sample is selectively exposed to the sonic energy to produce a desired result. With regards to claims 6 and 7, 18, 28-30, 33, 47, note that there is a pressure sensor microphone 82, (see claim 3 of Dugeon) which provides feedback control to the mechanical motion of the driver (18) in which acoustic pressure is produced upon the sample.

Art Unit: 1723

7. Claims 1, 23, 25, 27, 35, 39, 43 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Dickinson et al 5688406.

The claims are so broad, that the apparatus and method is anticipated by number of various devices and corresponding method of operation such as the device to Dickinson et al 5688406. Dickenson (et al) discloses an apparatus and corresponding method whereby a multiple sonic energy source drivers (34, 35) generates a two slightly different frequency wavetrains ((11a, 12a) (column 3, lines 57-66), a holder (surface 23) to hold a passing sample flow whereby the sample is movable relative to the emitted sonic energy; and a processor for controlling the two sonic energy sources (respective 30, 32; and 31, 33) and location of the sample (via and induced mixing flow of the sample caused by the acoustic pressure on to the sample caused by drivers) such that the sample is selectively exposed to the sonic energy to produce a desired result.

8. Claims 1 4, 5, and (as best understood, in light of 35 USC 112, 2nd para. to) claim 17, 18, 27, 32, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Sucholeiki 6277332.

The claims are so broad, that the apparatus and method is anticipated by number of various devices and corresponding method of operation such as the device to Sucholeiki. Sucholeiki discloses an apparatus and corresponding method whereby a multiple sonic energy source drivers ((230, 232, 234) generates a two wavetrains directed at a movable a holder (100) and tubes (14) to hold a passing sample flow when moved whereby the sample is movable relative to the emitted sonic energy via a

Art Unit: 1723

stepper motor arrangement (24); a bath (200) and corresponding temperature control feedback system (41, 27) provides a means to regulate one condition (claim 18) of the temperature of the sample; and a processor for controlling (46 50, 51) the two sonic energy sources and location of the sample such that the sample is selectively exposed to the sonic energy to produce a desired result.

It is noted that stepper motor 24 applies to the subject matter of claim 17 (and subject matter of cancelled parent claim 16 if re-presented in an amendment is rejected under this basis.)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 26 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dudgeon et al 4307964.

The method of operation of the device and the apparatus of Dudgeon et al 4307964 discloses all of the recited subject matter as defined within the scope of the claims with the exception of the sonic energy device producing 1000 cycles per burst at about a 10 percent duty cycle at about 15 Mpa.

Dudgeon et al 4307964 discloses that the device may produce sonic energy, however fails to particularly point out the rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa.

Art Unit: 1723

However, it is known that all sonic device may produce a rate of sonic energy in the terms of cycles per burst and the percent duty cycle at about a given Mpa. The particular amount of rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa is dependent upon the output size and precision of control of the output frequencies of the driver. Also it is known that the amount sonic energy applied to a material is a effective variable in producing the intensity of agitation upon the material.

Since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in a desired production of sonic burst energy to produce a desired agitation, (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)), and since such a modification would have involved a mere change in the size of a component of the size and capacity of the sonic driver to produce such a result, a change in size is generally recognized as being within the level of ordinary skill in the art. (In re Rose, 105 USPQ 237 (CCPA 1955).), it is deemed that it would have been obvious to one of ordinary skill in the art to modify the device and method of Dudgeon et al 4307964 such that the sonic drivers may produce a rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa as recited in claims 26 and 46 to produce a effective agitation of the material by the sonic drivers.

11. Claims 26 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al 5688406.

Art Unit: 1723

The method of operation of the device and the apparatus of Dickinson et al 5688406 discloses all of the recited subject matter as defined within the scope of the claims with the exception of the sonic energy device producing 1000 cycles per burst at about a 10 percent duty cycle at about 15 Mpa.

Dickinson et al 5688406 discloses that the device may produce sonic energy, however fails to particularly point out the rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa.

However, it is known that all sonic device may produce a rate of sonic energy in the terms of cycles per burst and the percent duty cycle at about a given Mpa. The particular amount of rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa is dependent upon the output size and precision of control of the output frequencies of the driver. Also it is known that the amount sonic energy applied to a material is a effective variable in producing the intensity of agitation upon the material.

Since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in a desired production of sonic burst energy to produce a desired agitation, (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)), and since such a modification would have involved a mere change in the size of a component of the size and capacity of the sonic driver to produce such a result, a change in size is generally recognized as being within the level of ordinary skill in the art. (In re Rose, 105 USPQ 237 (CCPA 1955).), it is deemed that it would have been obvious to one of ordinary skill in the art to modify the device and method of Dickinson

Art Unit: 1723

et al 5688406 such that the sonic drivers may produce a rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa as recited in claims 26 and 46 to produce a effective agitation of the material by the sonic drivers.

12. Claims 26 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sucholeiki 6277332 .

The method of operation of the device and the apparatus of Sucholeiki 6277332 discloses all of the recited subject matter as defined within the scope of the claims with the exception of the sonic energy device producing 1000 cycles per burst at about a 10 percent duty cycle at about 15 Mpa.

Sucholeiki 6277332 discloses that the device may produce sonic energy, however fails to particularly point out the rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa.

However, it is known that all sonic device may produce a rate of sonic energy in the terms of cycles per burst and the percent duty cycle at about a given Mpa. The particular amount of rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa is dependent upon the output size and precision of control of the output frequencies of the driver. Also it is known that the amount sonic energy applied to a material is a effective variable in producing the intensity of agitation upon the material.

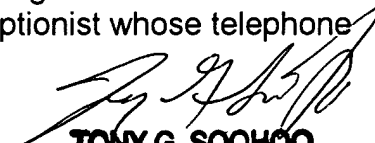
Art Unit: 1723

Since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in a desired production of sonic burst energy to produce a desired agitation, (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)), and since such a modification would have involved a mere change in the size of a component of the size and capacity of the sonic driver to produce such a result, a change in size is generally recognized as being within the level of ordinary skill in the art. (In re Rose, 105 USPQ 237 (CCPA 1955).), it is deemed that it would have been obvious to one of ordinary skill in the art to modify the device and method of Sucholeiki 6277332 such that the sonic drivers may produce a rate of sonic energy produced by the device in the terms of cycles per burst and the percent duty cycle at about a given Mpa as recited in claims 26 and 46 to produce a effective agitation of the material by the sonic drivers.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following disclose sonic devices: Berger et al 5484573, Wohlstadter et al 6413783, Williams 2632634, Camp 2864592, Bechtel at al 6515030, Dion et al 6361747, Umemura et al 5523058, Rife et al 6210128.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G Soohoo whose telephone number is (703) 308-2882. The examiner can normally be reached on 7:00 AM - 5:00 PM, Tues. - Fri.. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

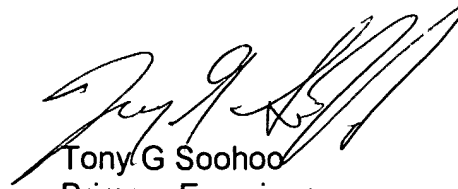


TONY G. SOOHO
PRIMARY EXAMINER

Application/Control Number: 09/830,473

Art Unit: 1723

Page 10

A handwritten signature in black ink, appearing to read 'Tony G Soohoo', is written over the printed name.

Tony G Soohoo
Primary Examiner
Art Unit 1723

tgs